

Marketing Information Systems in the Top U.S. Companies: A Longitudinal Analysis

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Abstract

Marketing information system (MKIS) has been the nerve center of a marketing organization in corporate America. To measure its strengths and weaknesses, one may use its overall status in industries as a yardstick. The objective of this effort was to determine the overall status of MKISs in top U.S. companies. In order to identify the progress of MKISs, the findings of this study are compared to those of a similar study made in 1985. Apparently, MKISs today are more sophisticated than before and that MKIS usage has increased. However, many companies are not utilizing the latest information technologies and many marketing managers are not satisfied with their MKISs. The study further discusses possible reasons for the progress and recommends several actions through which the companies may shape the future of their MKISs.

Keywords: Marketing information systems, marketing functions, marketing activities, marketing management, computer usage, decision support, information technologies, competitive advantage

1. Introduction

The marketing function of a business entity includes many activities. It is "the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational objectives." [3] In a nutshell, its main purpose is to satisfy customers' wants and needs at a profit [20]. A successful organization must integrate its functional elements into a smoothly operating unit. In marketing, this integration is best achieved through the satisfaction of customer's objectives. Firms that are unable to outperform their competitors in satisfying the customers are destined to fail. To be able to stay in business, a company must gather and analyze pertinent information to plan for its marketing actions.

In the 1960's, an MKIS was merely an outgrowth of marketing research. As competition became increasingly intense, the gathering and management of marketing information became important. The data needed to make informed decisions exceeded the physical processing capabilities of most firms. More and more businesses began to establish MKISs: typically, a marketing manager uses them to learn about the needs of the marketplace for new or improved products and services. The MKIS makes it possible for a firm to react rapidly to customer needs. Once the product or service has been provided, the marketing manager may use the MKIS to determine

how well the needs are being satisfied. The MKIS provides managers with marketplace information and this may be used to modify, improve, or delete products and services. If a company does not have an MKIS, its efficiency and effectiveness are likely to be severely degraded, weakening its competitive edge. Therefore, to be able to compete today, business organizations must have an MKIS.

To gain a perspective of MKISs in U.S. companies, researchers have conducted survey studies. The first was reported by Boone and Kurtz [6] in 1971; it used Fortune 500 companies as its target group. The study was replicated by McLeod and Rogers [21] in 1982; they compared the results and provided important insight into the progress of MKIS in Fortune 500 type companies.

McLeod and Rogers [22] later conducted a survey of some of the companies listed in the Fortune 1000 directory. They reported the MKIS status of these companies based on information from 75 respondents with MKISs in 1985. A few other studies have been reported since 1980. Berry [5] and Mentzer, et al. [23] surveyed the use of microcomputers in the MKIS; Higby and Farah [10] reported the use of decision support and expert systems; and Li, McLeod, and Rogers [15] updated the status and progress of MKISs in some Fortune 500 companies. However, none of these studies has replicated the 1985 study to determine the progress of MKISs.top 1000 U.S. companies. The purpose of this study is to do so by surveying this group of companies and comparing the results with those of 1985. The significant differences between these two

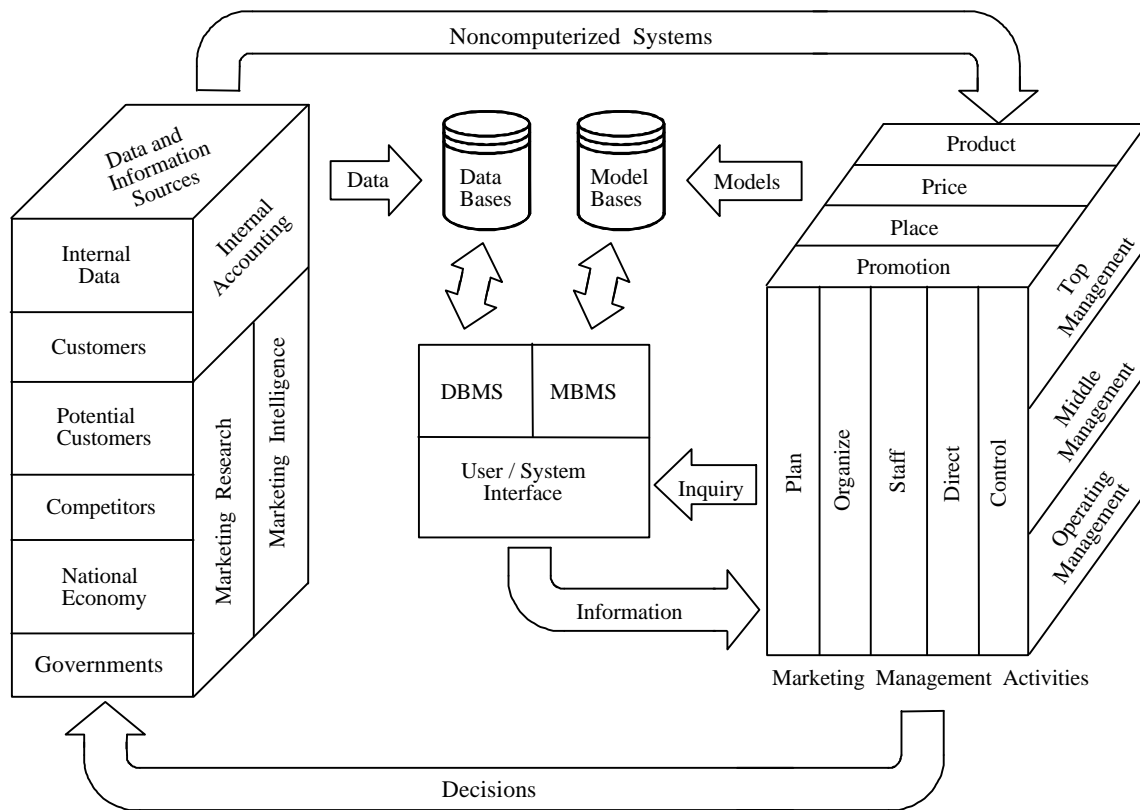


Figure 1. Framework of a Marketing Information System

studies may shed some light on the future of MKISs in these companies.

2. The MKIS Model for This Study

In retrospect, the very first descriptive model of MKIS proposed almost thirty years ago may be attributed to Philip Kotler [14]. Since then, many more models [1, 2, 7, 9, 13, 15, 16, 17, 18, 21, 22, 24, 25] have been proposed, however there is none that is widely accepted in industry. In fact, an MKIS is like a decision support system (DSS): it is generally unique to the company it serves.

For the purpose of this study, we adapted the MKIS model of McLeod and Rogers as shown in Figure 1. In this, there are two general subsystems which are fairly consistent with the others: they are the input and output subsystems. The input subsystems are internal accounting, marketing intelligence, and marketing research. They gather internal and environmental data for the databases. The output subsystems utilize the databases to produce marketing management information. Marketing managers will not only receive routine reports, they can also inquire interactively to produce ad hoc reports. Through this information, marketing managers can make their decisions on pricing,

products, advertising/promotion, distribution, and packaging, under the constraints imposed by economics, the government, competitors, and the customer needs. This process should be integrated into organizational strategies and decision-making processes to support all levels of marketing functions – planning, organizing, staffing, directing, and controlling.

3. Research Method

3.1. Subjects

A questionnaire concerning the use of MKIS with instruction for completing it was mailed to the marketing executives of the top 1000 firms listed in a recent issue of Business Week. This list is equivalent to the Fortune 1000 listing which was discontinued in 1983. Eventually, one hundred and thirty-eight replies (13.8%) were returned. This response rate is typical of an unsolicited mail survey. Of all the respondents, 81 (59%) were from product-related companies and the rest from service-related ones. Their annual sales ranged from \$20 million to \$30 billion and the number of employees ranged from 90 to 85,000. Among them, 104 (75%) indicated their firms have some form of MKIS and were able to complete the entire questionnaire.

Table 1 and Table 2 show the distributions of the types and size of the companies having an MKIS. The profile of the entire sample (138 companies) seems to be representative of Business Week 1000 firms. A chi-square test was conducted to identify significant difference in each distribution between the companies having MKISs and those having no MKISs. No significant difference was found in any distribution, indicating that the companies having MKISs should be representative of the entire sample.

3.2. Questionnaire

In order to facilitate comparison, the author adapted the questionnaire used by McLeod and Rogers with some additions. The additional questions were developed after considering the advances of information technology and the trend towards using CIS as a competitive weapon [4, 8, 11, 12, 19, 26, 27] in the past few years. The final questionnaire is shown in the Appendix.

3.3. Procedure

The questionnaire was pretested twice to determine its format and wording. The final questionnaire was sent to all 1000 executives. Two months later, a second mailing was sent to non-respondents. Of the 104 who were able to complete the entire questionnaire, 58 were in the first-wave mailing. The samples allow us to examine the existence of late-response bias. A series of chi-square and 't' tests were conducted between the two samples. The first was for questions with a nominal or ordinal scale and the second for questions with a ratio (percentage) scale. No significant differences were found on respondents' perceptions of MKISs. Since there is no evidence of late-response bias, the samples were merged for further analyses.

4. Results and Discussion

Of the 138 respondents, 25% said that they did not have a corporate MKIS. This percentage is fairly consistent with that of 1985 survey (24%). This is somewhat difficult to explain. It seems that any business should process some marketing-related information (e.g., customer addresses, sales orders, merchandise returns, etc.). As McLeod and Rogers suggested, the perceived MKIS support might be such a low level that it did not seem to exist which resulted in losing its identity. Alternatively, managers might rely on external MKIS services for marketing information. For the purpose of this study, the companies having no MKISs are excluded from further analyses.

4.1. CIS and Marketing Plans

The majority (81%) of the companies that stated they had MKISs also had company-wide computer information systems (CISs). Of the companies with CISs, two thirds had formal, written company-wide CIS plans. Fifty-nine percent said that their CIS plans were influenced by marketing strategies. In addition, most (89%) said they had formal, written marketing plans. However, only 53% of these were influenced by the status of information-related resources in the company.

4.2. Hardware Usage

An overwhelming number (95%) of respondents indicated that their MKISs were computer assisted; for the breakdown, see Figure 2. Interestingly enough, little use is made of

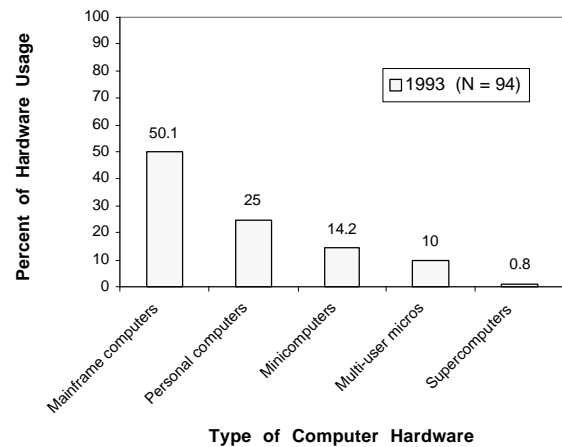


Figure 2. Computer Hardware Usage in MKIS

supercomputers.

4.3. Software Usage

Figure 3 shows that there were three main categories of corporate-wide software (i.e., decision modeling and spreadsheets, conventional programming, and database management). Apparently, expert systems and artificial intelligence

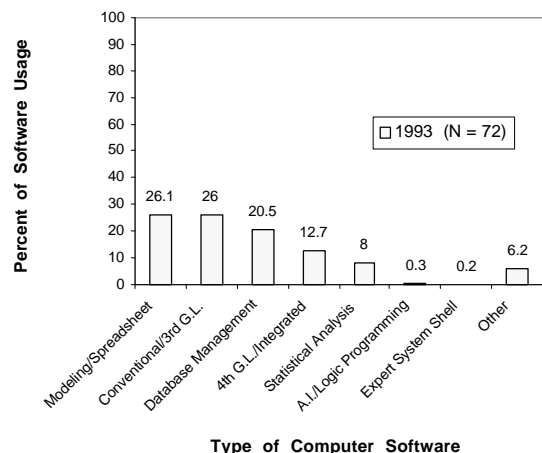


Figure 3. Computer Software Usage in MKIS

languages are not meeting their assumed demand.

4.4. Frequency of Computer Usage

Most of the respondents (93%) were able to access personal computers (PCs) or terminals in their job functions. This is much greater than 67% of 1985. Many (73%) used PCs or terminals on a daily basis (up from 53% in 1985). Figure 4 contrasts the frequencies of computer usage between

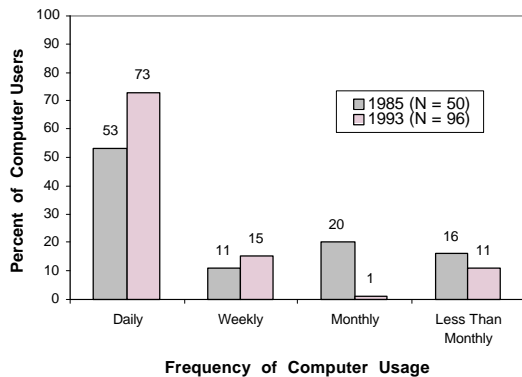


Figure 4. Frequency of Computer Usage

1985 and 1993. There were more daily or weekly users and less monthly or sporadic users in 1993 than in 1985 (significant at $p < 0.0001$ based on the chi-square test).

4.5. Purposes of Computer Usage

As in 1985, the major use of computers is to retrieve data (see Figure 5).

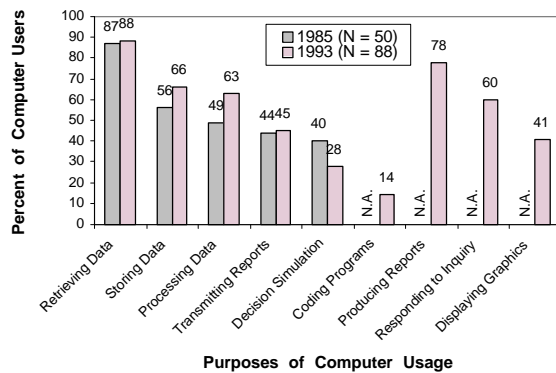


Figure 5. Purposes of Computer Usage

When asked what they first considered useful in their marketing information systems, 31% of the results were "reports," with 23% "different managers' information needs," and 18% "data/file retrieval." However, there are significant differences ($p < 0.01$) between 1993 and 1985 based on the chi-square test. "Reports" and "data retrieval" in 1993

were up from 1985's. This is consistent with the major purpose of computer usage in 1993 – retrieving data. On the contrary, "information needs" were down. Obviously marketing managers focus on their means (the information) and not their ends (the needs).

4.6. Communications of Information

Communications between branches and their main office are of vital importance to the success of a marketing organization. Traditionally, these communications were through the phone (or voice mail). In 1993, other communication channels included electronic mail (68%) and electronic bulletin boards (26%). The use of computer conferences (9%) and video conferences (10%) was limited. Surprisingly none of the firms utilized any hypertext or hypermedia technology for their inter-branch conferences. Moreover, many (78%, 78÷103) of these firms routinely routed marketing intelligence information to those managers with a need to know.

4.7. Sources of Information

Internal accounting was regarded as the most important source of MKIS information. It received 65% of the 95 top-ranking responses (see Figure 6). Table 3 shows the change in ranks of marketing intelligence (significant at $p < 0.05$ based on the Mann-Whitney test). Also, the rank distributions in 1993 between marketing-intelligence and marketing-research information are quite similar. This is a good sign for customers, since marketing research is primarily designed to identify market demands and preferences. This seems to confirm the reviving interest of corporate America in customer-driven programs.

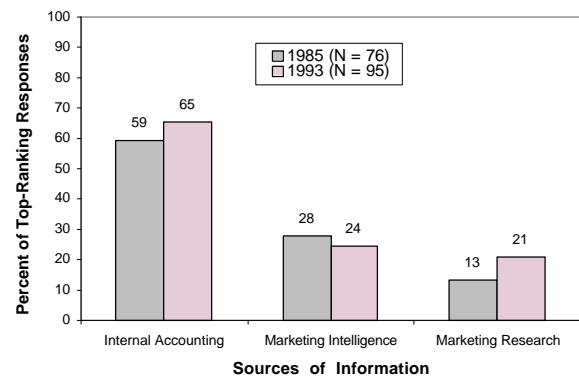


Figure 6. Sources of Information in MKIS

4.8. Information Content

Figure 7 shows the environmental data maintained in the MIKS. Furthermore, it shows that most (93%) customer data were computerized and

that more prospect data (up by 10%) but less national economy (down by 8%) were computerized in 1993 than in 1985.

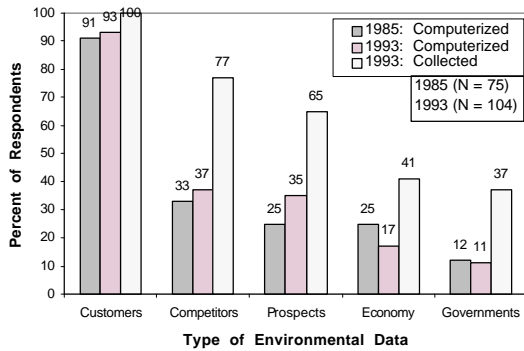


Figure 7. Environmental Data Collected for MKIS

With regard to preprocessed information, such as sales forecasts, distribution trends, market share, inventory statistics, etc., 70 of 100 responding companies made them available to managers on a real time basis. Nearly half (49%) of the companies had economic-trend estimates included in their marketing forecasts. As for competitor information, the status of 1993 is not much different than that of 1985 (see Figure 8). Many firms had been using corporate annual reports (74%), sales call reports (72%), purchased reports (71%), and clipping service (54%) as the source of their competitor information. Nonetheless, most was not computerized.

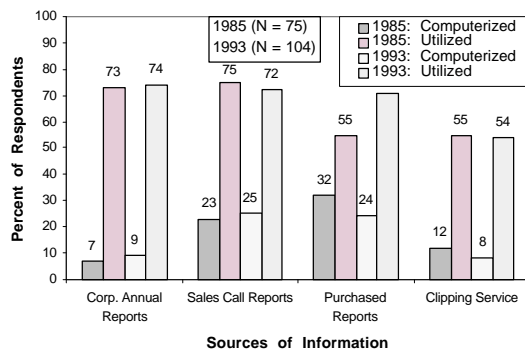


Figure 8. Sources of Competitor Information

4.9. Support for Marketing Management

As in 1985, 42% of the companies said that their MKISs were mostly supporting middle-level management (see Figure 9). However, more companies thought that low-level management were receiving more MKIS support than the top-level. Table 4 shows the average ranks of 1993 from middle to low and finally top. The distribution has changed significantly.

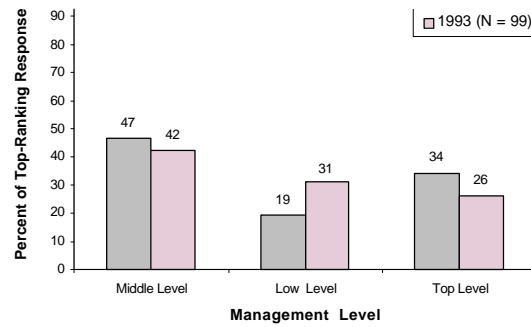


Figure 9. MKIS Support for Marketing Management

Regarding management functions, Figure 10 shows that planning (50%) and controlling (31%) were the two areas receiving the most support from the MKIS. While planning was up, controlling was down from 1985. Table 5 shows the average ranks of 1993 in sequence: planning, controlling, directing, organizing, and staffing. Also directing and controlling have significantly changed their rank distributions (at $p < 0.001$ and $p < 0.05$, respectively under the Mann-Whitney test). This increased support for planning activities has two implications:

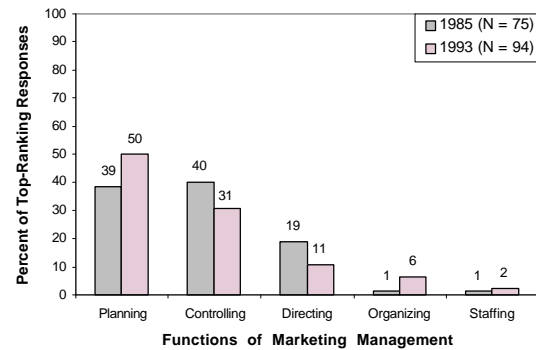


Figure 10. MKIS Support for Marketing Management Functions

on the positive side, MKIS had attracted more marketing managers to use the system for planning, but on the negative side, marketing managers may have focused too much on planning and too little on implementation and controls.

4.10. Support for Marketing-Mix Decisions

A marketing program typically involves decisions on the marketing-mix ingredients: product, price, place, and promotion. In 1985, product-related decisions were receiving the most MKIS support. In 1993, support for price-related decisions took a small lead ahead of that for product-related ones (see Figure 11). The chi-square test indicated that the change in top-ranking MKIS support between the two years was significant at $p < 0.05$. Table 6 shows the average ranks of 1993 in sequence were product, price, promotion, and place. Also product and promotion related decisions have significantly changed their rank distributions (at $p < 0.01$ and $p < 0.05$, respectively under the Mann-Whitney test). Apparently, MKIS in 1993 was

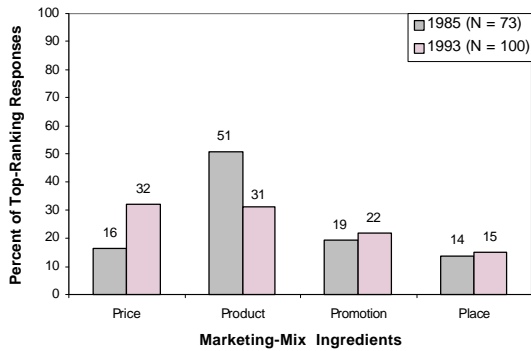


Figure 11. MKIS Support for Marketing-Mix Ingredients

supporting marketing-mix decisions on a more balanced basis than in 1985.

However, only 55% of the companies had the descriptions of price-related decisions computerized. To develop such databases is by no means easy under old computer technology. Fortunately, hypertext or hypermedia should make it easier in the future.

4.11. Use of Decision Models

There are several decision models available to a marketing manager. Most of them were developed to aid in price and product decisions. In 1985, 58% of the managers used decision models to compute their annual operating budgets, and 42% used them to evaluate new products or formulate pricing strategies. In 1993, this has flipped; operating budgets went down and product evaluation and pricing strategies each went up (see Figure 12).

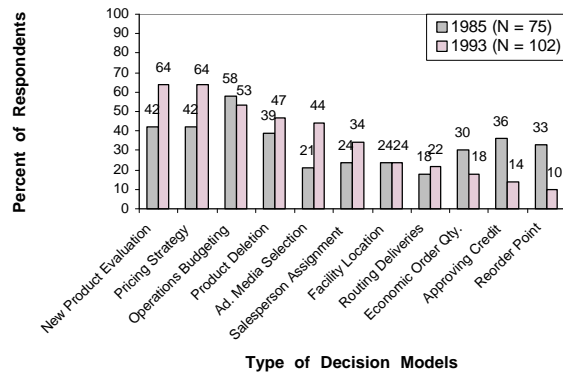


Figure 12. Use of Decision Models

Furthermore, the use of models had shown various levels of increase in less-structured tasks such as product deletion, advertising media selection, salesperson assignment, and delivery routing. One particular task, selection of advertising media, had more than doubled in its use. On the contrary, the well-structured tasks such as computing economic order quantities, determining reorder points, and approving customer credit had shown significant

decreases ($p < 0.0001$ under the chi-square test) in model use. Figure 13 shows that the decision models most likely to be computer-assisted are for formulating pricing strategy, computing operating budget, evaluating new products, and deleting products.

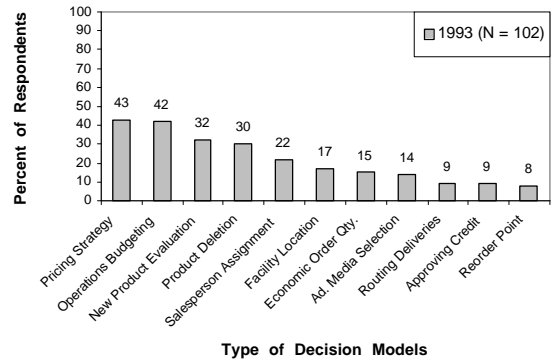


Figure 13. Computer-Assisted Decision Models

4.12. Performance of MKIS

There were a diversity of MKISs among the participating companies. When asked to define the company's MKIS, thirty-seven (37%) managers replied that it was "a group of subsystems – some gather data and others process it. The data gathering subsystems are marketing research, marketing intelligence, and internal accounting. The processing subsystems produce information about product, price, distribution, and promotion."

The next most popular definition was given by 23 managers who stated that the MKIS was "a group of subsystems that gather information from the environment and use it to help the manager answer certain basic questions, such as What is our current situation? Where do we want to be? What are the constraints? and What action should we take?"

Fifteen managers felt that the MKIS was a "data bank that stores data from the environment and makes that data available to a set of computer programs. The programs produce output that is communicated to the manager on a display unit." Only ten managers thought that the MKIS was "a group of subsystems – each representing an area of marketing activity – product, price, distribution channels, and promotion. The subsystems help the manager formulate and execute marketing programs."

This wide divergence in MKIS definitions indicates that there is no accepted industry standard. The companies seem to be searching for efficiency in their marketing organizations. It is obvious that most of the companies have not found a system that they believe is best. Only 32% were satisfied with their existing MKISs and 16% were neutral on the subject. However, 54% felt that their MKISs gave

them some sort of competitive advantage. A cross-tabulation of satisfaction level by competitive advantage (see Figure 14) showed that there was a significant positive association between them ($p < 0.0001$ under the chi-square test).

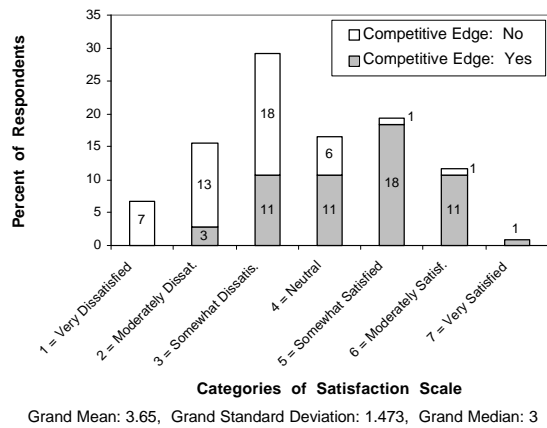


Figure 14. Satisfaction With Marketing Information Systems

5. Conclusions and Recommendations

Overall, the results of this study confirm mostly to the trends identified in 1985. The specific patterns of MKIS usage includes:

- (1) Computers are needed by marketing managers, for retrieving data and then storing and processing it.
- (2) Internal accounting continues to be the most important source of MKIS information while the use of marketing intelligence and marketing research as information sources are more balanced.
- (3) Most companies collect data about their customers. Collection of data about competitors and prospective customers is also popular, but this is less computerized.
- (4) The major users of MKIS are the middle-level managers.
- (5) Planning and controlling are still the management functions using most MKIS support.
- (6) Price and product related decisions consume most of the MKIS resources. However, support for marketing-mix ingredients is likely to become more balanced.
- (7) Decision models are used mostly for product and price decisions. Computer-assisted decision models reflect this.
- (8) Mini and microcomputers are now used as much as mainframe computers.
- (9) The computer software being used in an MKIS includes modeling/spreadsheets, conventional/third-generation programming languages, and database management systems. Statistical

analysis software, logic programming languages, and expert system shells are not used very much.

Although many of the surveyed companies have sophisticated CISs and MKISs, most of them are limited in nature. There seems to be a deficiency in computerizing information about governments, economy, competitors, and prospects across companies. Such information cannot be used effectively if it is not computerized. Nor can it be communicated between branches and the main office efficiently.

In today's global marketplace, the success of a company does not depend on how much the company uses latest technologies but on how well it can gather, manage, and utilize pertinent information and integrated it into the marketing managers' decision making processes. To achieve a successful MKIS, implementing new information technologies is not enough. It is necessary to focus more on the information needs of marketing managers, to balance the MKIS support for all management functions, and to integrate business plans with CIS plans in order to exploit the available information resources. This will probably create a competitive advantage for the company and, in turn, increase the level of satisfaction perceived by the managers.

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Table 1. Industry Types of Participating Companies

Type of Industry	Company has MKIS?		% of Row Total	
	No	Yes		
<u>Product-related Non-manufacturing Industries:</u>				
Metal mining	1	1	1.4%	
Coal mining	0	1	0.7%	
Oil and gas extraction	1	4	3.6%	
Mining & quarrying of nonmetallic minerals, except fuels	0	1	0.7%	
	Subtotal:	2	7	6.5%
<u>Product-related Manufacturing Industries:</u>				
Food and kindred products	1	8	6.5%	
Lumber and wood products, except furniture	1	0	0.7%	
Furniture and fixtures	0	2	1.4%	
Paper and allied products	1	4	3.6%	
Printing, publishing and allied industries	2	1	2.2%	
Chemicals & allied products	1	9	7.2%	
Petroleum refining and related industries	0	3	2.2%	
Rubber & miscellaneous plastic products	1	1	1.4%	
Stone, clay, glass, and concrete products	1	1	1.4%	
Primary metal industries	2	4	4.3%	
Fabricated metal products, except machinery and transportation equipment	0	1	0.7%	
Industrial & commercial machinery and computer equipment	3	6	6.5%	
Electronic & electrical equipment & components except for computers	2	7	6.5%	
Transportation equipment	2	2	2.9%	
Measuring, analyzing and controlling instruments	2	3	3.6%	
Miscellaneous manufacturing industries	1	0	0.7%	
	Subtotal:	20	52	52.1%
<u>Service Industries:</u>				
Motor freight transportation and warehousing	0	2	1.4%	
Transportation by air	1	0	0.7%	
Communications	0	2	1.4%	
Electric, gas & sanitary services	2	15	12.3%	
Wholesale trade – durable goods	0	2	1.4%	
Wholesale trade – nondurable goods	0	1	0.7%	
Building materials, hardware, garden supply, and mobile home dealers	0	1	0.7%	
General merchandise stores	0	1	0.7%	
Food stores	0	1	0.7%	
Home furniture, furnishings & equipment stores	1	0	0.7%	
Eating and drinking places	1	0	0.7%	
Miscellaneous retail	0	1	0.7%	
Depository institutions	0	4	2.9%	
Insurance carriers	2	7	6.5%	
Insurance agents, brokers & service	0	1	0.7%	
Holding & other investment offices	1	3	2.9%	
Personal services	1	0	0.7%	
Business services (including EDP)	2	1	2.2%	
Motion pictures	1	0	0.7%	
Health services	0	1	0.7%	
Educational services	0	1	0.7%	
Engineering, accounting, research, management & related services	0	1	0.7%	
	Subtotal:	12	45	41.3%
(N = 138)	Total:	34	104	100.0

Table 2. Size of Respondents' Companies

Size of Company	Company has MKIS?		Row Total	% of Row Total
	No	Yes		
Annual Sales:				
Below \$ 100 million	2	1	3	2.2%
\$ 100 million to below \$ 500 million	8	23	31	22.5%
\$ 500 million to below \$ 1 billion	10	24	34	24.6%
\$ 1 billion or above	14	56	70	50.7%
Column Total:	34	104	138	100.0%
% of Column Total:	24.6%	75.4%	100.0%	
Number of Employees:				
50 to 500	1	1	2	1.4%
501 to 2,000	4	17	21	15.2%
2,001 to 10,000	18	47	65	47.1%
10,001 to 25,000	5	20	25	18.1%
25,001 to 50,000	3	14	17	12.3%
50,001 to 100,000	3	5	8	8.0%
Column Total:	34	104	138	100.0%
% of Column Total:	24.6%	75.4%	100.0%	

Table 3. The Ranks of Sources of Information in 1985 and 1993

Source of Information	Rank			Average Rank	Mann-Whitney Test ^a
	1	2	3		
Internal Accounting:					
1985 (N = 66)	45	9	12	1.500	0.2482
1993 (N = 102)	62	12	28	1.667	
Marketing Research:					
1985 (N = 56)	10	27	19	2.161	0.6547
1993 (N = 102)	20	41	41	2.206	
Marketing Intelligence:					
1985 (N = 57)	21	18	18	1.947	0.0244
1993 (N = 102)	23	30	49	2.255	*

^a Significance level of the Mann-Whitney test of independence between 1985 and 1993 data.

* Significant at p < 0.05

Table 4. The Ranks of Support for Management Levels in 1985 and 1993

Management Level	Rank			Average Rank	Mann-Whitney Test ^a
	1	2	3		
Top Level:					
1985 (N = 70)	25	28	17	1.886	0.0203
1993 (N = 92)	26	23	43	2.185	*
Middle Level:					
1985 (N = 68)	34	32	2	1.529	0.2936
1993 (N = 92)	42	39	11	1.663	
Low Level:					
1985 (N = 63)	14	7	42	2.444	0.0369
1993 (N = 92)	31	16	45	2.152	*

^a Significance level of the Mann-Whitney test of independence between 1985 and 1993 data.

* Significant at p < 0.05

Table 5. The Ranks of Support for Management Functions in 1985 and 1993

<i>Management Function</i>	<i>Rank</i>					<i>Average Rank</i>	<i>Mann-Whitney Test^a</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>		
Planning:							
1985 (<i>N</i> = 65)	29	14	14	5	3	2.062	0.4716
1993 (<i>N</i> = 92)	47	20	13	3	9	1.989	
Organizing:							
1985 (<i>N</i> = 55)	1	9	12	30	3	3.455	0.5241
1993 (<i>N</i> = 92)	6	12	24	27	23	3.533	
Staffing:							
1985 (<i>N</i> = 54)	1	2	5	2	44	4.593	0.6136
1993 (<i>N</i> = 92)	2	5	4	10	71	4.554	
Directing:							
1985 (<i>N</i> = 64)	14	20	13	16	1	2.531	0.0003
1993 (<i>N</i> = 92)	10	16	24	20	22	3.304	***
Controlling:							
1985 (<i>N</i> = 68)	30	19	15	3	1	1.912	0.0234
1993 (<i>N</i> = 92)	29	27	14	10	12	2.446	*

^a Significance level of the Mann-Whitney test of independence between 1985 and 1993 data.

* Significant at $p < 0.05$

** Significant at $p < 0.01$

*** Significant at $p < 0.001$

Table 6. The Ranks of Support for Marketing Mix in 1985 and 1993

<i>Marketing-Mix Decision</i>	<i>Rank</i>				<i>Average Rank</i>	<i>Mann-Whitney Test^a</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>		
Product:						
1985 (<i>N</i> = 65)	37	11	10	7	1.800	0.0037
1993 (<i>N</i> = 98)	31	29	17	21	2.286	**
Price:						
1985 (<i>N</i> = 59)	12	21	12	14	2.475	0.3042
1993 (<i>N</i> = 98)	32	24	23	19	2.296	
Place:						
1985 (<i>N</i> = 58)	10	11	16	21	2.828	0.3928
1993 (<i>N</i> = 98)	15	20	17	46	2.959	
Promotion:						
1985 (<i>N</i> = 61)	14	18	19	10	2.410	0.0169
1993 (<i>N</i> = 98)	22	15	19	42	2.827	*

^a Significance level of the Mann-Whitney test of independence between 1985 and 1993 data.

* Significant at $p < 0.05$

** Significant at $p < 0.01$

APPENDIX: Survey Questionnaire

1. Does your firm have a marketing information system (be it manual or computer-based)?

1____ YES 2____ NO

If your answer to the above question is NO, please return this questionnaire in the enclosed self-addressed, postage-paid envelope. Thank you.

2. Does your firm have a company-wide computer information system (CIS)?

1____ YES 2____ NO

If **YES**, does your firm have a formal, written company-wide CIS plan?

1____ YES 2____ NO

If **YES**, is the company-wide CIS plan influenced by your company's marketing strategies?

1____ YES 2____ NO

3. Does your firm have a formal, written marketing plan?

1____ YES 2____ NO

If **YES**, is the marketing plan influenced by the status of your company's information-related resources?

1____ YES 2____ NO

4. When you think of your firm's marketing information system (MKIS), what do you think of first? (Check only one)

1____ Computer equipment

2____ Computer models/programs

3____ Data storage

4____ Data retrieval

5____ Data processing

6____ Reports

7____ Areas of marketing operations

8____ Different managers' information needs

9____ Other _____

5. Does your firm have the following activities between branches and the main office? (Check all that apply)

a____ Video conferences

b____ Computer conferences

c____ Electronic mail

d____ Electronic bulletin board

e____ Hypertext conferences

f____ Hypermedia conferences

6. Is your firm's marketing information system in any way computer assisted?

1____ YES 2____ NO

If **YES**, please give the percentage of usage pertinent to the following types of computers. (Note that the total percentage of usage should equal **100%**.)

- a _____ % Supercomputers
- b _____ % Mainframe computers
- c _____ % Minicomputers
- d _____ % Multi-user microcomputers
- e _____ % Single-user microcomputers

7. Is a personal computer or terminal available to you in your own office?

- 1 _____ YES 2 _____ NO

8. How often do you use a personal computer or terminal?

- 1 _____ Daily
- 2 _____ Two or three times per week
- 3 _____ Once per week
- 4 _____ Once per month or less
- 5 _____ Never

9. If you use a personal computer or terminal, for what purpose do you use it? (Check all that apply)

- a _____ Storing data
- b _____ Retrieving data
- c _____ Processing data
- d _____ Decision simulation
- e _____ Sending/receiving reports
- f _____ Coding computer programs
- g _____ Displaying graphic output
- h _____ Producing reports
- i _____ Responding to inquiries
- j _____ Other _____

10. Does your firm maintain data on the following entities? Which data on these entities is computerized? (Check all that apply in each category)

<u>Entity</u>	<u>Maintained</u>	<u>Computerized</u>
Customers	1 _____	2 _____
Potential customers	1 _____	2 _____
Competitors	1 _____	2 _____
Governments	1 _____	2 _____
National economy	1 _____	2 _____

11. Is any preprocessed information (e.g., sales forecasts, market share, distribution trend, etc.) maintained in the database for immediate response to manager queries?

- 1 _____ YES 2 _____ NO 3 _____ Other: _____

If **YES**, can you give examples of the information items? _____

12. Do your marketing forecasts explicitly include estimates of economic trends?

1 ___ YES 2 ___ NO 3 ___ Other: _____

13. Rank the levels of marketing management based on degree of support received from the Marketing Information System (MKIS). Enter a "1" for the level receiving the most support.

- a ___ Top level (vice presidents of marketing, sales, etc.)
- b ___ Middle level (regional managers, directors, etc.)
- c ___ Low level (office managers, supervisors, etc.)

14. Does your firm have an office concerned primarily with the collection of information on: (Check all that apply)

- a ___ Customers
- b ___ Competitors
- c ___ Governments

15. Check the following sources of competitor information that your firm utilizes, and the ones that enter the computerized database. (Check all that apply)

<u>Source</u>	<u>Utilized</u>	<u>Computerized</u>
Clipping service	1 _____	2 _____
Corporate annual reports	1 _____	2 _____
Salesperson call reports	1 _____	2 _____
Purchased reports	1 _____	2 _____

16. Rank the following data and information sources to your marketing information system. Enter a "1" for the most important source.

- a ___ Internal accounting
- b ___ Marketing research
- c ___ Marketing intelligence

17. Rank the following decision areas according to the degree of support received from the marketing information system. Enter a "1" for the most important source.

<u>Rank</u>	<u>Marketing Program</u>	<u>Computerized</u>
a ___	Product-related decisions	a ___
b ___	Pricing decisions	b ___
c ___	Distribution channel decisions	c ___
d ___	Promotional decisions	d ___

Are descriptions of the above marketing decisions stored in the computerized database? Please check the ones that are computerized on the right of the above decisions.

18. Does your firm routinely route marketing intelligence information immediately upon receipt to those managers with a need to know?

1 ___ YES 2 ___ NO 3 ___ Other: _____

19. Which of the following decisions are you responsible for? Do you use computers to assist in making the following decisions? (Check all that apply in each category.)

<u>Decision</u>	<u>Responsible</u>	<u>Computer-Assisted</u>
New product evaluation	1 _____	2 _____
Product deletion	1 _____	2 _____
Pricing strategy	1 _____	2 _____
Location of facilities, such as warehouses or stores	1 _____	2 _____
Routing of salesperson or deliveries	1 _____	2 _____
Computing economic order quantities (EOQ)	1 _____	2 _____
Computing reorder points	1 _____	2 _____
Approving customer credit	1 _____	2 _____
Selecting advertising media	1 _____	2 _____
Assigning sales representatives to territories	1 _____	2 _____
Computing operating budgets	1 _____	2 _____
Other _____	1 _____	2 _____

20. Are certain models listed above intended for use by particular management levels?

1 _____ YES 2 _____ NO 3 _____ Other: _____

21. Rank the management levels in terms of model use. Enter a "1" for the level making greatest use of models.

a _____ Top level (vice presidents of marketing, sales, etc.)

b _____ Middle level (regional managers, directors, etc.)

c _____ Low level (office managers, supervisors, etc.)

22. Rank the marketing management activities according to the degree of support received from the MKIS. Enter a "1" for the activity receiving the most support.

a _____ Planning

b _____ Organizing

c _____ Staffing

d _____ Directing

e _____ Controlling

23. Which definition most closely describes your marketing information system?

1 _____ A data bank that stores data from the environment and makes that data available to a set of computer programs. The programs produce output that is communicated to the manager on a display unit.

2 _____ A group of subsystems that gather information from the environment (customers, competition, government, etc.) and use it to help the manager answer certain basic questions, such as What is our current situation? Where do we want to be? What are the constraints? and What action should we take?

3 _____ A group of subsystems – each representing an area of marketing activity – product, price, distribution channels, and promotion. The subsystems help the manager formulate and execute marketing programs.

4 _____ A group of four subsystems. Three are concerned with gathering data (marketing research, marketing intelligence, internal accounting). One subsystem includes decision models that convert the data into information.

5_____ A group of subsystems – some gather data and others process it. The data gathering subsystems are marketing research, marketing intelligence, and internal accounting. The processing subsystems produce information about product, price, distribution channels, and promotion.

6_____ None of these definitions fits our system. I would describe our system as follows:

24.To what extent are you satisfied with the capability and quality of your existing marketing information system? (Circle one number only)

Very satisfied 7 6 5 4 3 2 1 Very dissatisfied

25. Do you think the company-wide computer information system or your marketing information system has somehow created a competitive edge for your firm?

1_____ YES 2_____ NO

26. If the total percentage of software usage is **100%**, what is the percentage of the following software usage in your marketing information system?

- a_____ % Conventional programming--- COBOL, FORTRAN, PL/I, C, etc.
 - b_____ % A.I./Logic programming--- PROLOG, LISP, SMALLTALK, etc.
 - c_____ % Expert system shell--- ART, GURU, KEE, OPS5, etc.
 - d_____ % Decision modeling/Spreadsheets--- EXPRESS, IFPS, SIMPLAN, LOTUS, etc.
 - e_____ % Database management--- IMS, DB2, ADATABASE, IDMS, dBASE, etc.
 - f_____ % 4th generation/Integrated--- FOCUS, NOMAD, MAPPER, etc.
 - g_____ % Statistical analysis--- SAS, SPSS, BMDP, MINITAB, etc.
 - h_____ % Other (specify):_____
-